# ONORRHŒA
# IN THE MALE

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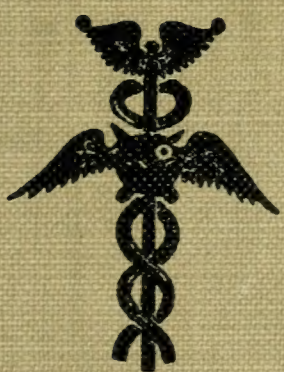

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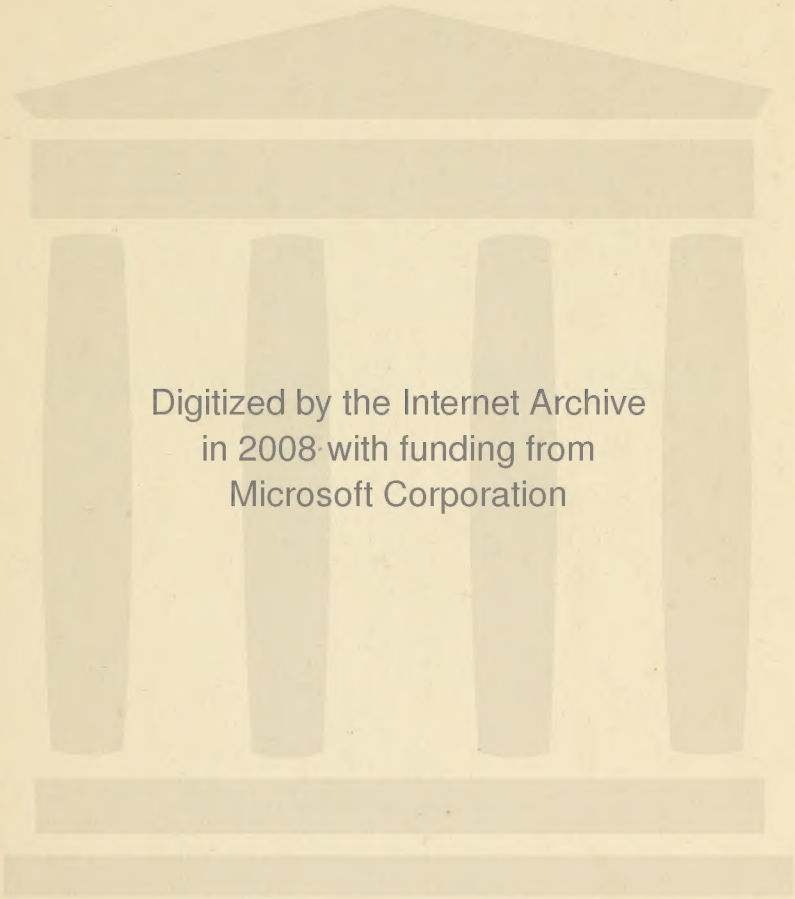

# SOME PRACTICAL POINTS IN THE DIAGNOSIS AND TREATMENT OF

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# Gonorrhœa in the Male

BY

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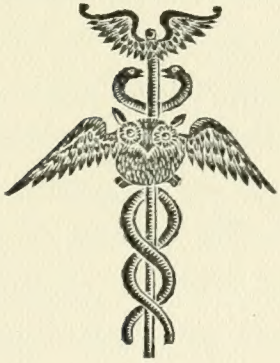

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**Introductory remarks**—A generation ago a lecturer who intended to introduce to a medical audience the subject with which I propose dealing would have felt compelled to apologize for bringing before his professional brethren an affection which, in the light of the times, appeared too trivial to deserve the serious consideration of the faculty, and in which every medical student could then claim to be a proficient specialist. Times have since changed. I think I stand in no need of offering a similar apology to you; for the experience gained and the research done during the last twenty-five or thirty years have taught us that gonorrhœa, so far from being a trivial affection, a nuisance rather than a disease, with its complications and sequels, is not only liable to seriously affect the physical health of the individual patient, but cuts deeply into the flesh of the social organism. One need not go so far as the late Lawson Tait, who claimed that every man at least once during life acquired clap; one need not be so pessimistic as Noeggerath, who asserts that gon-

orrhœa in the male as well as in the female persists for life in certain sections of the organs of generation, notwithstanding its apparent cure in many instances, and that 90 per cent. of the men when they marry infect their wives; yet there is no doubt that Neisser is right when he says: "Thousands, and even tens of thousands, of people are to be found in every civilized country whose health has been seriously undermined, whose capacity for work has been greatly lessened, and who owe their state of chronic invalidism to gonorrhœa."

And if we listen to the powerful voice of figures, and thereby learn that more than one-half of the involuntarily childless marriages and limitations of children is due to gonorrhœa and its sequelæ in men and women; that of the women who die of diseases of the womb or of its adnexa, 80 per cent. are proved to succumb to gonorrhœal infection; that, according to the Report of the Committee of the Ophthalmological Society in 1884, 30 to 40 per cent. of the inmates of four asylums for the blind in England owed their blindness to post-partum ophthalmia, and that the Royal Commission on the condition of the blind estimated that in England there were about 7,000 persons blind

as the result of this disease; whilst in Germany the same illness has cost 30,000 people their eyesight, we are no longer justified in dismissing a patient who consults us for gonorrhœa with a syringe and a smile, half pitying, half mocking, so characteristic of times gone by.

**Definition—Specificity**—The first question which naturally arises is, *What is acute gonorrhœa?* Acute gonorrhœa in the male—for I propose restricting my remarks to male patients—is an acute specific purulent catarrh of the urethra. Since the characteristic microorganism discovered by Neisser in 1879 has been constantly found in every case of true gonorrhœa, has been cultivated on divers media, and successfully inoculated from pure cultivations, both by way of experiment—as first by Bumm—and in some instances unintentionally, Koch's postulates for the specificity of pathogenic germs have, in the case of the gonococcus, been amply fulfilled, and we have no longer a right to diagnose every discharge, or even every purulent discharge, from the male urethra as gonorrhœal in origin.

I have frequently been consulted by patients who had never before suffered from gonorrhœa, and who came to me with yellowish or greenish

stains on their linen, and with all the other symptoms supposed to be characteristic of florid gonorrhœa, and who were themselves convinced of having contracted a clap; yet the microscope at once revealed the fact that they were affected with simple or bacterial urethritis, but certainly not with gonorrhœa. I have purposely said, "patients who had never before suffered from gonorrhœa." This limitation is necessary, for, as we shall see later, the absence of gonococci from a discharge on a single or even on several occasions in a patient who had previously had gonorrhœa, is by no means a certain indication that the discharge is not gonorrhœic in origin. This distinction between simple and bacterial urethritis on the one hand, and true gonorrhœa on the other, is by no means purely academic. Not only does it materially affect the prognosis and treatment —for a non-gonorrhœal discharge disappears within a period of from twenty-four to forty-eight hours under appropriate yet very simple treatment, as the internal administration of a balsamic mixture or the local application of a very mild astringent solution—but the distinction is often of vital importance as regards questions of conjugal fidelity. More than once

have I been consulted by husbands who had never had gonorrhœa, and who, on noticing a purulent discharge from their urethra, suspected and accused their wives, when the microscope at once convinced me and enabled me to convince the patient that his apprehensions were without any foundation.

The diagnosis of gonorrhœa, therefore, centres in the discovery of the gonococcus by the microscope, and the staining for the specific germ ought, as a matter of routine, to be the first step in dealing with a case of purulent discharge from the urethra. The process is a very simple one, as the gonococcus easily takes up any aniline dye, as fuchsine, methylene blue, or gentian violet, so eagerly in fact that the only difficulty is to avoid excessive staining.

It is still stated in some text-books that in the female gonorrhœa may be developed *de novo—i.e.,* evolved from a non-pathogenic organism through want of cleanliness and the decomposition of retained and foul discharges. Such an assertion is quite unwarranted by facts, and, in the present state of our knowledge, refuted by the analogy of other specific germs—nay, by the very idea of "specificity" itself. And whilst there is no doubt that simple

and bacterial urethritis may be caused by leucorrhœa, or by sexual intercourse with a woman menstruating, about to menstruate, or just having finished menstruation, the gonorrhœal form is always the result of infection from a pre-existing gonorrhœa. I do not say "of a fresh infection," for AUTO-INFECTION, with all the symptoms of acute gonorrhœa, only too commonly occurs in those suffering from the chronic form of the disease, as the product of sexual or alcoholic excesses, and sometimes without any tangible cause.

In patients who had already gone through an attack it may be very difficult to decide whether, in the present instance, we have to deal with the result of a recent infection or an acute paroxysm in the course of a chronic or latent trouble. Sometimes the history of the case clears up all doubts in this direction. The length of time that has elapsed since the last attack and the last active manifestations is no criterion; for it is marvellous for how many years gonorrhœa may remain latent, in the male as well as in the female, before showing signs of recrudescence. But if the patient's last illness dates many years back, and you have at the time satisfied yourself that the

patient passed all the tests we must apply before pronouncing a case cured, it becomes practically certain that the disease is the result of recent infection. Conversely, if on the previous occasion the patient discontinued treatment after the more acute signs had subsided, but before the evil was entirely eradicated, you will as a rule be right in supposing that the old illness gives signs of renewed activity. Yet we must not forget that even a patient suffering from gleet may acquire a fresh clap; for it is a well-established fact that gonorrhœa does not even temporarily protect against itself. Always look with suspicion on patients who come and tell you that they have had the clap twenty times or that they had half a dozen gonorrhœas during the last two years. Whilst gonorrhœa is a very widespread evil, and whilst it cannot be denied that some individuals are specially susceptible to the virus, yet cases are not nearly so numerous as would appear from the patients' enumerations. It cannot be a mere coincidence that case after case turns up, in which treatment persisted in till the urethra and its adnexa are entirely free from the ravages of the gonococcus succeeds in conferring upon the patient what would otherwise appear to be an im-

munity, sometimes of many years' duration, though he exposes himself to the risk of infection quite as frequently as before. If, on the other hand, you rest satisfied when the acute symptoms have subsided, periods of latency and of renewed activity will continue to alternate, and you or some other man will before long again see the same patient with an apparently fresh clap.

**Incubative stage** —Sometimes the *length of the incubative period* helps you in arriving at a definite conclusion. If during the last fortnight the only occasion on which the patient exposed himself to the risk of infection was two days ago, you may be quite sure, in spite of all you may read to the contrary, that the attack is not of recent origin. The stage of incubation as given in the text-books is much too short; you are usually told that the acute symptoms set in after two to five days. This is not true, and the error must have arisen from a faulty diagnosis from cases of simple urethritis, which usually puts in an appearance very shortly after intercourse, from acute exacerbations in the course of the chronic form, and from a tendency—so natural with the public and often uncritically shared by the faculty

—of ascribing the effect to the latest available cause, whilst it is not at all unusual that a patient in the incubative stage continues indulging in sexual intercourse. I have notes of over thirty cases, either of a first attack or of a later attack, the previous one dating back several years, and the patient having, to my knowledge, been perfectly cured at the time, in which the incubation period could not be less than six and in some not less than fourteen days. These are, in my idea, the extreme limits, the usual incubation period varying from seven to ten days. In a very large experience of gonorrhœa, I have not come across a single instance incompatible with a latent stage of from six to fourteen days—that is to say, I have never seen a patient who acquired a first attack of gonorrhœa from a single exposure within the last fortnight and within less than six days. Occasionally the microscope clears up any doubts as to the freshness of the illness or otherwise. Yet cases do occur where you are unable to make up your mind with any degree of certainty in either the one or the other direction. In such a dilemma it is safest to consider the case as an old one and to treat it as a fresh attack; a rapid disappearance of the acute dis-

charge will mostly convince you that your supposition was right.

**Latency in the female**—I have already mentioned that, in the female as well as in the male, gonorrhœa may remain latent for years before showing signs of renewed activity. This fact helps us to explain a group of cases one occasionally comes across, and which would otherwise be a riddle. Experience teaches you to be pessimistic as to conjugal fidelity in the male. But patients do from time to time come under your observation where you can exclude extra-matrimonial aberrations, and where you feel compelled to arrive at the conclusion that the husband has acquired an acute clap from his own wife. The wife may be innocent, and, to all external appearances, perfectly healthy; but a glycerine tampon introduced into the vagina and removed after forty-eight hours occasionally reveals the secret of latent gonorrhœa by the presence of the characteristic micro-organism in the mucus which has collected on it. The usual order of things, then, is that a man enters married life with the remains of an old gonorrhœa still on him; the dose of poison he gives his young bride is not large enough to provoke an acute attack or to

produce one of those low forms of inflammation so commonly found in gynæcological practice, yet active enough to thrive on the pabulum offered by the mucus and by the linings of the female generative organs. After years of latency, the husband gets back his own in the form of an acute attack of gonorrhœa. A similar explanation applies to those cases where, over a long period of time, a woman is a source of infection to a large number of men, whilst quite as many have intercourse with her with perfect immunity. Individual predisposition, no doubt, counts for something in this apparently capricious discrimination; but to a large extent intermittent discharges of latent energy in the woman must be held responsible.

**Acute anterior gonorrhœa—Symptomatology**—I now proceed to some remarks on the *symptomatology of uncomplicated acute gonorrhœa.* Let me here premise that I consider acute anterior and uncomplicated acute gonorrhœa as identical and interchangeable terms, and that posterior urethritis, even in its acute form, must be looked upon as an unwelcome and, to a certain extent, avoidable complication. The distinction between anterior and posterior urethritis is not an arbitrary one; it

is not even dictated by practical considerations of prognosis and treatment alone, but it is forced upon us by the anatomical fact that the urinary canal from the bladder to the mouth of the urethra is divided into two compartments by the strong barrier offered by the compressor urethræ. This muscle forms an obstacle to the migrations of the gonococcus far more efficient than is generally supposed, and if its resistance is once overcome, not only is the posterior urethra with its adnexa, the prostate and the seminal vesicles, exposed to its ravages, but the weak bundle of fibres, usually described as the internal sphincter, is not able to exclude the secretion from the bladder, though, fortunately, the lining of this organ does not appear to offer a favourable soil to the growth of the germ.

A mucous stage is usually described as preceding that of suppuration. I think you may safely dismiss it from your minds. Whilst a mucoid discharge is a matter of daily occurrence in chronic forms, is to a certain extent a characteristic precursor of purulent secretion when an old deposit gives signs of renewed activity, and forms a frequent intermediate stage between suppuration and cure in acute cases, I

have only once seen anything approaching a serious initial stage. When you examine a case in the earliest stages you either find pus or no discharge at all. If you have to deal with a first attack, you are almost always told that painful sensations, especially on micturition, preceded the discharge, most frequently only by a few hours, sometimes by a full day, occasionally by a couple of days or more. This latter statement ought to be taken *cum grano salis.* More than once have I found in patients who denied having a discharge a shirt-front the lower part of which was a monochromic study in yellowish green. In older sinners, the premonitory subjective symptom, as, in fact, the sensations throughout, are either nil or very insignificant, and the stains on the linen are mostly the first indication to draw the attention to the genitals. There are, however, exceptions to this rule, and particularly in cases where a long time has elapsed since the last clap, the sufferings are occasionally quite as acute as in a first gonorrhœa.

Let us, however, at once add that, even in the most severe cases, rational treatment succeeds in keeping the pain within very moderate and bearable bounds; this holds particularly good

of the scalding on micturition, and the French "Chaude-pisse" is, therefore, to a large extent deprived of its original meaning; but it is also true of the painful nocturnal erections which are honoured with the name of "chordee" far more commonly than they deserve. This term ought to be restricted to those cases where the pain on erection results from inflammatory infiltration of either the corpus spongiosum or one of the corpora cavernosa. The condition, even in its slighter degrees, is, in my experience, one of comparative rarity, the ordinary type of painful erection being simply due to increased active congestion in the diseased organ during the act. We are indeed here in the midst of a vicious circle, as the inflammatory condition of the urethral lining and the congestion accompanying it excite the penile reflex, and the erection thus produced in its turn determines an increased flow of blood to the affected parts. The only other symptom which, in an uncomplicated case, claims our attention is the discharge. This is at first scanty, thick, and sticky, and of a saturated greenish-yellow colour; soon it increases in quantity but diminishes in consistency, and the greenish tint more and more disappears.

Under appropriate treatment it rapidly becomes less again, lighter and lighter in colour, thinner and thinner, till it finally disappears, often after presenting for a few days a mucoserous character.

**Treatment of acute anterior gonorrhœa**—We now come to the *treatment;* and the bewildering chaos of plans recommended, and the number of which is from time to time increased by new proposals, which, as a rule, fall again into rapid oblivion, is a sufficient proof that our knowledge in this respect is still far from perfect. The indications which we have to fulfil are clear enough. We must aim at restricting the inflammation and its symptoms; we must try to bring the disease to a speedy termination, and prevent its becoming chronic; and, last, but not least, we must, as far as lies in our power, prevent complications. There is no doubt that these postulates may be fulfilled in many ways, and that here, as everywhere, the routes that lead to Rome are many. Practically everybody who has a good deal to do with this illness has worked out for himself a method of his own, and I am not going to tire you with the enumeration of a long list of competing plans. I shall explain to you in detail

the one experience has taught me to work very satisfactorily in the vast majority of cases, and which appears to me rational from every point of view. But let me first warn you against all systems of treatment which, though particularly successful in a limited number of cases, yet, on the whole, do more harm than good.

We know that in a healthy individual a gonorrhœa has a tendency to spontaneous cure, and that a great many cases under the observation of a few hygienic and dietetic rules do get well by themselves and without any active interference. *Nil nocere* is, therefore, a principle we never ought to deviate from. This applies foremost to the attempts at so-called abortive treatment. The plan of cutting the disease short at its very inception by one or a few injections of a strong nitrate of silver solution is now seldom practised. The inflammatory reaction is mostly so severe, and complications so frequent, that the cure is worse than the evil. But in a more limited sense the same remarks apply to the irrigation plan of treatment, which seems to be the craze just now, and which was introduced by Janet, but is known as the Valentine treatment. However valuable the method is in subchronic and chronic forms of posterior ure-

thritis—and I grant that in the vast majority of such cases it proves far superior to any other—acute anterior gonorrhœa is certainly not its field. I find that, at the best, the duration of an attack is by no means shorter, whilst complications, and particularly posterior urethritis and its sequelæ, are far more numerous under its application than where simpler methods are followed.

The treatment of gonorrhœa, as I carry it out, is threefold—

1. General and dietetic.
2. Internal.
3. Local.

1. **The general hygienic treatment** includes, first of all, the wearing of a well-fitting *suspensory bandage,* which ought to be provided with under-straps; I find the "Syracuse" and the "Red Cross" are the models which answer best. They are made in three sizes, and the one appropriate to the volume of the testicles ought to be prescribed, otherwise one often sees the patient with a bag just large enough to hold one of the organs, or with a sac in which the scrotal contents dance freely about. Altogether, I think, you cannot be too

pedantic in your attention to details if you wish to be really successful with your cases.

*Scrupulous cleanliness* is the next postulate, as auto-infection appears to be a not infrequent cause of an unduly persistent discharge. The patient should frequently take warm hip-baths, and a small pad of cotton-wool, soaked in a saturated solution of boric acid, ought to be inserted into the preputial sac, and to be changed after each micturition. By this simple means a gluing together of the lips, which would lead to an undue retention of the secretion, is prevented, and the soiling of the patient's body linen effectively avoided. Where the foreskin is missing, a similar wet pad ought to be inserted in a Hartmann's gonorrhœa bag; fastening it to the penis by a piece of thread or tape interferes with the circulation, and sometimes leads to œdematous swelling of the parts. Dry cotton-wool, dry bags, and particularly rubber bags, are objectionable.

The patient should further be instructed to *well wash his hands* every time after touching his genitals, as after each urination, so as to exclude the possibility of accidental inoculation of other mucous surfaces. There can be no doubt that patients confined to their beds

make the quickest recovery, but, except in the case of soldiers, such complete rest is impossible, and, fortunately, not necessary, provided the patient is warned to take as little exercise as possible, and to avoid all violent kinds of exertion, as dancing and sports.

*Regularity of the bowels* is of the utmost importance, and should, if necessary, be promoted by artificial means. The diet ought, at any rate during the acute inflammatory stage, to be very strict. Wine, beer, and spirits are to be forbidden throughout the course of an acute gonorrhœa, and coffee I have found almost as harmful as the alcoholic beverages. But the patients ought to be encouraged to partake freely of non-stimulating liquids. I usually recommend them to swallow at least three quarts of fluid per diem, as the free flow of urine thus produced provides a natural means of frequently and thoroughly flushing the canal, and of washing away the discharge. A copious injection of aseptic liquid into the urethra from the bladder is thus provided, a valuable adjuvant to, and in some degree an efficient substitute for, the injections from without. Water and milk are the most suitable beverages, though tea and not too highly car-

bonated mineral waters in small quantities are harmless. The patient should arrange to get through the greatest part of the quantity indicated in the daytime, but he should drink very little late in the evening, since a full bladder, as is well known to you, particularly when assisted by the warmth of the bed, causes erections. Salted, highly spiced, pickled, and smoked provisions are forbidden; eggs should be partaken of but sparingly, and an excess of animal food in any form, and particularly of meat, is to be avoided. In ordinary cases, I allow one meat meal a day, but whilst the inflammation is at its height in a first attack, I often find it useful to put the patient for a little while on a purely vegetarian plan of living.

2. As to the **internal treatment,** I cannot speak highly enough of the value of balsamics. I know that opinions as to their usefulness differ very much, some authorities ascribing to them only anodyne properties, whilst others recognise their healing effects during the subacute period, but want to exclude them from the treatment of the acute attack. Among the sovereign remedies of this group, copaiba, cubebs, and santal-wood oil, I have a decided preference for the latter, and I can testify from

a large experience to its great value in each and every stage of urethral gonorrhœa. I have given it with the greatest advantage during the height of the inflammatory stage of fulminant gonorrhœa, I have given it with signal success in severe posterior urethritis, and I have seen more than one chronic case healing under its administration alone, sometimes after topic measures have failed to effect a complete cure. Be not afraid of large doses, or of its prolonged use. No doubt some people have an idiosyncrasy against the drug, and gastro-intestinal derangements are liable to occur. Sometimes, though much more rarely than in the case of copaiba, a skin eruption appears, and fairly often pains in the back are complained of, after santal-wood oil has been taken for some time. These latter, however, have not the serious import usually ascribed to them; as a rule, they are simply a symptom of dyspepsia or flatulence produced by the drug, and even if they are renal in origin, they do not indicate renal congestion or beginning nephritis. I have never come across a single case where its use led to albuminuria, and I have made up my mind that in patients in whom albuminuria was discovered after its administration this must have been a pre-existing condition.

In the early stages I combine it with the orthodox alkaline mixture, which has the double advantage of diminishing the acidity of the urine and of counteracting in a marked degree the ill-effects of the drug on the digestive organs. A favourite prescription of mine is an emulsion containing 15 to 20 minims of the oil, with 15 grains each of compound tragacanth powder and of bicarbonate of soda in an ounce of infusion of buchu. If there is a tendency to constipation, 10 to 15 grains of the light carbonate of magnesia may be added. This dose is taken three times a day after meals, and a fourth dose at bedtime. This latter, in conjunction with a warm bath before retiring, is very effective in preventing the nocturnal erections. During the peracute stage, this mixture is useful in promoting a free flow of a thinner pus, and in keeping at bay the severer inflammatory symptoms. When this effect is reached, I discard it in favour of santal-wood capsules of 15 minims each, of which I direct the patient to take four to six, and sometimes as many as eight or ten, in the course of the twenty-four hours. I think the failure of the drug in the hands of some men is due to its being given in homœopathic doses.

An infusion of *uvæ ursi* leaves forms a harmless and valuable adjuvant. Urotropine, which has proved so successful in typhoid cystitis, and which has raised great hopes as to the benefits to be derived from it in other infectious conditions of the uropoietic organs, I have tried in a very large number of cases, and I have found it absolutely useless.

3. The **local treatment** of acute gonorrhœa ought to be restricted to injections. The Valentine treatment offers, in my opinion, as I have already mentioned, to say the least, no advantage whatsoever, and, besides, it is extremely difficult to carry it out in private practice, on account of the very frequent visits to the doctor's house which it necessitates. Other forms of remedial applications require instrumental manipulation, and are, therefore, strictly contra-indicated, as **no instrument ought ever, without the most absolute necessity, to be introduced into an acutely inflamed urethra.** There is only one set of circumstances which ever justifies it, and that is acute retention supervening in the course of an acute posterior urethritis, if it cannot be overcome by such simpler means as hot baths and opium or opium and belladonna suppositories. Opinions

differ as to the necessity of injections in acute gonorrhœa, and whilst I grant that many cases do get well without any local treatment whatsoever, yet a large number remain where injections finally become necessary, and I am convinced that in almost every case the attack is materially shortened by their timely application.

The next question which arises is, At what time ought local treatment to be commenced? Is it better to attempt to disinfect the diseased mucous membrane from the very outset, or ought we to wait till the more acute symptoms have subsided, or even till the discharge begins to diminish spontaneously? Whilst fully recognising that each case ought to be judged on its own individual merits, I think the moment for injections has come as soon as a profuse discharge of moderate consistency is established. Some medical men begin at once with the injections, but I think that at the time when the inflammation is at its height, when the mucous membrane is swollen sometimes to such an extent as to be squeezed out at the orifice, and the discharge is still scanty and of a thick, gelatinous type—I think that in this stage injections are distinctly harmful, as they

injure the diseased mucous lining, not only by virtue of their chemical composition, but by the mechanical insult likewise. I therefore condemn the practice followed by some of injecting plain warm water during the initial period. On the other hand, when the discharge has become voluminous and thin creamy, the acute shock to the urethral lining is over, and suitable fluids now injected are instrumental in cutting the attack short. In my opinion, nothing is gained, but much may be lost, by delaying topic treatment beyond this moment. In a first gonorrhœa the period at which injections may be safely prescribed lies usually between the seventh and the tenth day after the discharge has first been noticed; in later attacks the fulminating stage is either altogether missing, when local treatment may be employed from the very outset, or is of a very few days' duration, so that in them it need rarely be delayed beyond the fourth or fifth day.

I now pass to the technical side of the question, the art of injecting. The best instrument for the purpose is a glass syringe, holding about 10 grammes, ending in a cone-shaped nozzle or provided with a soft rubber pear, and fitted with metal or vulcanite mountings. Avoid

those terminating in a long point; they are almost as bad as ball syringes, against the use of which I cannot enough warn you. The patient ought never to inject without having previously urinated. He then fills the syringe with warm water, expels the air, and allows the fluid to enter his urethra drop by drop by gently and very slowly pressing home the piston rod, till the anterior portion of the canal is completely filled; he ought to instil the water rather than inject it. I usually demonstrate the use of the syringe to the patient, and I insist on the last-mentioned precaution, as mechanical injury to the diseased structures is thereby avoided. A sitting posture, or compression of the urethra from the perineum whilst the injection is made, is a quite unnecessary safeguard; unless extraordinary force, hardly to be obtained with an ordinary syringe, is used, the liquid will enter the posterior urethra only in those very rare instances where the compressor, instead of forcibly contracting as soon as the liquid reaches it, yields to the pressure of the fluid column. One knows that this event has occurred if the patient is able to inject larger amounts than his urethra can hold, if he at once gets an urgent desire to micturate, or

if, after removing the syringe and releasing the digital pressure on the orifice, the fluid does not at once escape, but is either retained or expelled by a forcible contraction of the bladder. As soon as the urethra is full, the patient allows the warm water to escape at once, fills his syringe with the medicinal solution, and injects under the same precautions as before. He retains the fluid for a period varying from half a minute to two or three minutes, according to the stage of the disease and the nature of the lotion employed.

Before giving you the plan of local measures I usually carry out, I must say a few words about a group of preparations introduced of late years, and recommended by prominent men, chiefly on theoretical grounds—I mean the organic silver compounds, of which the pharmaceutical industry—chiefly on the Continent—does not get tired of producing new specimens, but of which protargol is the most popular. Experiments with pure cultivations of the gonococcus have long since shown that nitrate of silver is the most active agent in checking its growth and in destroying its vitality; but apart from its irritating effects, which render its administration dangerous dur-

ing the acute stage, it has the additional disadvantage of precipitating albumen and being precipitated by it, whereby its action is of necessity limited to the superficial layers. Neisser has formulated the postulate that the ideal remedy for gonorrhœa ought to be a silver compound, the solution of which is not precipitated by albumen, which acts purely as an antigonorrhœic, and has no irritating or astringent effect upon the urethral mucous membrane. Many authorities believe that such an ideal preparation has been found in one or other of the organic silver group, as protargol, largin, argentamin, argonin, or albargin. An additional advantage claimed for them is that, on account of their non-irritating qualities, they may be employed from the very first, and that they may be left in contact with the diseased structure for a practically unlimited length of time—as much as half an hour, or even an hour. But however warmly their use has been advocated by authorities of very high standing, my own experience has taught me that—at any rate, in acute gonorrhœa—the practical results obtained therewith in the living organism lag far behind the high expectations founded upon experiments in the test-tube and on purely

theoretical considerations. Under their employment the acute stage is often unduly prolonged, and the percentage of chronic cases is distinctly higher than under the older plan, which I have successfully carried out for a number of years. At the best, the course of the illness is not milder, nor its duration shorter, complications are by no means rarer, and, in fact, I could not discover any practical advantage they possess over other salts hitherto described in acute gonorrhœa. I have therefore entirely discarded them in acute gonorrhœa, and I have returned to the plan the principle of which I am now going to explain.

Don't expect anything new; you will simply meet a few old friends rationally grouped. I must premise that in my idea injections are far too often prescribed in an indiscriminate and unsystematic fashion, and without regard to the stage in which the disease happens to be. There is no such thing as a specific for gonorrhœa, and what we ought to do is in every case to fulfil the indications it presents at a given moment. As long as the discharge is profuse and the gonococcus actively growing, it is useless to soothe the mucous membrane by astringent solutions. Here an antiseptic plan of

treatment is needed, and I usually begin local remedial measures with a very weak solution of **permanganate of potash.** In spite of all that may be said as to its insignificant bactericidal properties, there is no doubt that at this epoch it acts like a charm. I have often been told by patients that a copious discharge practically stopped after the first or the first few injections, and in every case its application is followed by a rapid diminution of the secretion. I recommend to you always to begin with the weakest possible solution; I usually commence with a $\frac{1}{18}$ grain to the ounce, slowly increasing the strength up to $\frac{1}{6}$ grain if necessary, though I must confess that the need for such a degree of concentration rarely occurs. The patient injects this solution four times a day, and I often find it useful to let him inject two, three, or even four syringefuls in succession on each occasion. The permanganate has done its work when the discharge has almost subsided, and only a few drops form in the course of the twenty-four hours.

I do not say that you cannot cure many patients by continuing the same treatment to the end, but, in the majority of cases, a point is soon reached when, under its protracted admin-

istration, the disease remains stationary, getting neither better nor worse. I therefore prefer to discontinue it when the result indicated has been obtained. The active proliferation of the germs has then ceased, and it is now better to act on the diseased mucous lining by a preparation which combines antiseptic and astringent properties, such as the **sulpho-carbolate of zinc.** At first I prescribed a solution containing 1 grain to 1½ grains of this valuable drug to the ounce of water; but the strength must be more or less rapidly increased, according to the requirements of the case, if you want to effect a speedy cure. Generally speaking, and whatever preparations you employ, always begin your local treatment with the weakest possible injection; but when once the secretion is reduced to inconsiderable proportions, smartly increase the concentration of the solution which you then employ. The mucous membrane gets quickly used to an astringent preparation of a certain percentage, and unless we increase the latter no further progress takes place. We ought to anticipate this torpor, and fearlessly strengthen our preparation before the urethra gives the first indications of apathy. We may thereby heal in a week what would

otherwise drag on for a month. Very often the two preparations mentioned suffice to effect a cure; but where a mucoid or serous secretion proves obstinate, or where, after the subsidence of all visible discharge, the lips of the urethral orifice have a persistent tendency to be glued together, or the filaments are slow in disappearing from the urine—in all these cases the acetate of zinc forms a valuable addition to the sulpho-carbolate solution. A formula like the following—

| | |
|---|---|
| Zinci sulpho-carbol. . . | gr. 3 to 4 to 6 |
| Zinci acetat. . . . . | gr. 1 to 1½ |
| Glycerini . . . . . | min. 5 |
| Aquæ . . . . . | Up to 1 oz. |

is with me the favourite prescription during the subacute stage.

Where the preparations mentioned are prescribed in suitable strength and in accordance with the stage of the disease, and if the technique of injecting is properly carried out by the patient, need for alternative plans of treatment rarely occurs; but where a change appeared desirable, sulphate of copper and alum are the drugs I have found most serviceable.

**Individual peculiarities**—Never forget that each urethra has an individuality of its own, some more closely approaching to the average type, but others presenting peculiar anatomical or physiological features. In dealing with a gonorrhœic patient, always try to make yourselves thoroughly acquainted with the characteristics of his special case, and try to treat him according to the lessons learned therefrom. Let me give you a few common examples.

**Intolerant urethra**—One type is what I am in the habit of calling the *irritable or intolerant urethra.* The tolerance of the urethral, as well as of the other mucous membranes, to local applications is a very variable factor in different subjects. Cases occasionally come under observation where the first injection even of the weakest solution is followed by a most violent inflammatory reaction, which nothing will arrest but the complete discontinuance of all topic applications. You may search the whole Pharmacopœia for the least irritating preparation, you may reduce the strength to ultra-homœopathic proportions, you may change from drug to drug, you may exhaust all your patience and all ingenuity—the result will always be the same: nothing will agree. These

are, no doubt, the cases which have prejudiced more than one physician against the local treatment in general, and it must be owned that they do best if no local application whatsoever has been tried. If you find that your patient is endowed with such an unfortunate urethra, at once desist from all local attempts; and if you have attended the patient during a previous attack, never prescribe an injection at all, and resign yourself exclusively to internal medication. For the intolerance of which I speak is not a temporary condition, but a persistent feature of the patient's mucous membrane. Some of these cases will drag on for a long time, and altogether they form, in my opinion, the most annoying and most unsatisfactory group in the whole field of gonorrhœa.

Some cases have a marked idiosyncrasy only for a certain drug. I have seen a few patients with whom zinc in any of its salts did not seem to agree. All you have to do is to substitute another preparation, and the result is bound to be satisfactory.

**Lethargic urethra**—The opposite condition to the one I have described as the irritable urethra is represented by what I call *the lethargic or leather urethra;* but whilst the for-

mer is a natural feature, the latter appears to be an acquired state. For it is only seen in patients who have passed through several attacks, or through an attack of exceptional severity, more particularly if at the time they have undergone some unduly energetic plan of treatment. Their urethral lining seems to be in a state of complete tanning. You prescribe one of your usual injections, and the discharge shows not the least tendency to diminish; you slowly and cautiously increase the strength of the solution, or you change the remedy. Pus is poured forth as liberally as ever. Unless you suspect the condition you will not be able to improve the patient, and you will finally give him up as a hopeless case, or he will run from one medical man to the other till the true state of affairs is discovered. Then the route to be followed is simple enough; it only requires courage. If the patient has injected a solution of sulpho-carbolate of zinc of 2 grains to the ounce, give him 5 grains to the ounce, after a few days 8, and by-and-by, if necessary, 10 or 12 grains. He will do remarkably well; no trace of pain or reaction is complained of, and in a week or two the patient is cured from a disease which had been on him in its acute form

for many months. You must, however, be on your guard. Some cases will at first sight strike you as lethargic which have really an intolerant urethra, and *vice versa.* If in doubt, discontinue local treatment for a day or two; an irritable urethra will improve thereon, a leather urethra will remain unchanged or get worse.

An abnormality fairly frequently met with in practice is a *congenital narrowness of the meatus.* You would hardly believe to what an extent it modifies, even in its slighter degrees, the course of an attack of gonorrhœa. The obstinacy such cases show is usually ascribed to reflex irritation, but I am more inclined to think that the funnel shape which the canal presents is an obstacle to the efficient draining off of the discharge, and that the secretion thus pent up has a tendency to flow backwards into the posterior urethra, and there to set up inflammatory processes. At any rate, there is no doubt that in patients with a narrow orifice acute and chronic posterior urethritis is much more likely to occur than in ordinary cases. I therefore advise you to perform meatotomy at a fairly early stage—that is to say, as soon as the discharge has become mucoid or serous.

The edges of the wound must be prevented from reuniting by the daily passage of a fairly large cylindrical bougie, which should, however, be introduced not deeper than an inch or so, and may be immediately withdrawn again. The patient, meanwhile, continues with his injection.

An *exceptionally wide meatus* is more rarely found. Where the lumen of the urethra behind it is of normal calibre, the case may be dealt with in the usual straightforward way. But frequently it is but the outward manifestation of an abnormally wide urethral canal, and sometimes the bore of the latter is of such dimensions that the term "water-pipe" seems amply justified. In such cases be particular to instruct the patient to completely fill his anterior urethra, for which purpose as much as a syringeful and a half, or even two of the ordinary size, may be necessary. Otherwise the urethra is never properly ballooned by the injected solution, some parts of its walls will probably never get into contact with it, and the case is likely to drag on in an otherwise inexplicable way.

Occasionally a meatus of apparently normal size is, on closer inspection, found to be divided

by a septum, formed by a fold of mucous membrane, into two compartments, the larger one leading into the urethral canal, the smaller—usually the lower one—ending in a flat pouch. If the narrowing of the lumen of the true meatus effected thereby is at all considerable, the septum ought to be divided, dissected out, or a meatotomy, including the cul-de-sac, may become necessary.

*Congenital fistulæ* are by no means uncommon. They are of two types, complete and incomplete external. In the former case the inflammation spreads to their mucous lining by continuity; in the latter, they are practically always infected by contamination from without. They may be solitary or multiple, and are particularly often found in connection with hypospadias, where an accessory duct, leading from a point of the urethral canal somewhat behind its orifice to a spot near the locality where the normal urethral opening would lie, is often met with. I must add that hypospadias in itself, if of moderate degree, gives no trouble whatsoever. But similar fistulæ of ante-natal origin are not at all rare in penile organs otherwise absolutely normal. The inflammation in these ducts may persist after that in the chief

canal has long subsided, and may become a source of reinfection to the latter. But it is quite easy to cure if you instil some fairly strong astringent solution into the fistula by means of an ordinary Pravaz syringe armed with a needle of the size agreeable to the duct. If it is complete, the fluid will escape at the chief opening; if incomplete, the amount you are able to instil is more limited, will make the fistula bulge out, or the fluid will escape at the side of the needle. Sometimes it is an advantage to transform, if possible, the incomplete into a complete fistula by passing the point of the needle into the true urethral canal. The congenital variety is distinguished from the penile fistula, the result of a lacunar or follicular abscess, by the absence of any thickening of its walls; besides, the acquired form is, as a rule, very short, and may open in any part of the penis, whilst the external orifice of the congenital variety is invariably found in the glans. Just to warn you, I may mention that I have seen several cases where a short acquired fistula in the glans, with marked infiltration of its walls and scanty secretion, and accompanied by some inguinal adenitis, has been diagnosed as a Hunterian chancre.

**Statistics**—Now, what are the *results* obtained by the treatment which I have detailed? There are two ways in which we may judge of the superiority or otherwise of a given plan. First, by the average duration of an attack; and, secondly, by the percentage of complications, including the proportion of cases which become chronic. I think that in both respects the figures which I am going to mention compare favourably with the results obtained under any other plan of treatment. But I will at once candidly state that the cases which come under my care represent to a certain extent a picked class of patients. In statistics in general, and in gonorrhœa statistics in particular, the material from which your figures are derived plays a very important part, and tables cannot, without due allowance being made, be compared if the cases from which they are drawn belong to different social strata, to different classes of occupation, and are of a different educational level. To give you a practical example, it does not speak in favour of my treatment if I can prove that epididymitis much more rarely occurs among my patients, drawn as they are from a class of men the majority of whom are of more or less se-

dentary habits, than in a certain out-patient department frequented chiefly by working-men, who, by virtue of their occupation, are constantly exposed to one of the chief existing causes of inflammation of the testicle—physical exertion.

You would expect, as a matter of course, that success is more frequent and more striking amongst city people, who supply the largest contingent to my consulting-room practice, on account of their superior intelligence enabling them fully to grasp and to appreciate the principles laid down for their guidance, even though the moral energy to carry them out in a satisfactory manner be often wanting. Yet if I consider the enormous number of patients of the very same class who come to consult me at a time when the gonorrhœa is already in a chronic stage, or who present themselves with complications already upon them; if I remember that these cases are in my practice almost, if not actually, more numerous than the fresh claps which I see, I am still inclined to think that the plan I advocate has something to do with bringing the vast majority of my cases to a satisfactory issue. With these restrictions and limitations, I give you my figures for what

they are worth. I must, however, add that these figures are not corrected. I have, for instance, reason to believe that many patients who consult me for an acute clap, which becomes chronic, have had gleet before they come to me with a fresh attack; and, furthermore, in many cases where complications set in, their occurrence can be traced to some definite violation of the rules of advice given to the patient. The usual custom nowadays is to allow for such considerations when compiling statistical tables. I am not in favour of such a process of exclusion, for if we followed it to its logical end we should simply arrive at the results obtainable amongst an ideal set of patients, or at the proportion of cases in which a satisfactory explanation of some untoward event cannot be advanced.

What we want to know is the actual percentage occurring among people as they are, with all their shortcomings, all their tendency to self-indulgence, and all their inclination to take the doctor's orders with the proverbial grain of salt; if our figures are sufficiently large, the element of chance is effectively excluded. Let us first speak of the average duration of the attack. Here again the subjective

moment plays an important part. Up to what time shall it be reckoned? Up to the moment the discharge has stopped? But we know that the disappearance of visible secretion is no indication that the case is cured. Besides, we may see the patient on many occasions without being able to detect even a trace of moisture at his orifice, and yet the history of the suspicious morning drop may continue. Or to the time when the shreds are no longer found in the urine? But many people have shreds in the water all their lives without having gonorrhœa on them. Or to the moment you have satisfied yourselves that the patient's genitals are free from gonococci? Before you are satisfied, or ought to be satisfied, on this point, the patient has always been well for some time, and different observers differ so much in their exactions in this respect that on this basis we should be unable to compare results. Moreover, you must not forget that many patients dismiss themselves before you pronounce them as cured. You see, you cannot help measuring with a somewhat arbitrary measure, and I have found it a simple rule—quite sufficient for all practical purposes, and particularly for comparing the results obtained by me with the

various plans of treatment I have tried—to reckon the duration of the attack up to the time when I am no longer able, by stroking the urethra, to obtain fluid containing gonococci. As long as there is pus, you may, in acute gonorrhœa, be sure that there are the specific germs. When the drop you squeeze out is watery, you have to stain before deciding the question.

Well, I find that two-thirds of my patients treated for a first infection thus far recover within eighteen days, whilst 80 per cent. of the later attacks reach this stage within twelve days. Various authors place the frequency of posterior urethritis at between 60 and 90 per cent. White and Martin, in their well-known treatise, go so far as to say that the gonococcus, with but few exceptions, invades the posterior urethra. But I can assure you that I find indications of infection of the posterior urethra and its adnexa in considerably less than one-third of my cases. About 6 per cent.—mostly of posterior urethritis—become chronic with me. The frequency of epididymitis I place at 1½ per cent., that of gonorrhœal rheumatism at about 1 in 200 cases, whilst all the other complications together, if I except such of a

trifling nature as small warts, occur in less than ½ per cent. of my patients. I wish you clearly to understand that I speak here of cases which I have attended from the beginning of the acute attack.

I have dealt with the subject so far in a somewhat detailed manner. For it depends on the management of this stage to a very large extent whether an attack of gonorrhœa is to remain a minor ailment or is to become a source of long suffering, of serious illness, of permanent damage to the sexual organs, or even to the body in general, and maybe of life-long misery. I now come to the complications, and I intend restricting myself to those more frequently met with.

**Acute posterior gonorrhœa**—If the gonococcus spreads beyond the limits of its legitimate realm and passes the barrier of the compressor muscle, the aspect of the case at once becomes one of greater severity, and the chances of its turning chronic are vastly increased. Those chronics whom I have attended during the acute attack have had—almost every one of them—acute posterior urethritis, and the same holds good for the majority of those patients who come under my care at a

later stage. The tendency to invasion of the posterior urethra exists practically during the acute stage alone, chronic posterior urethritis being almost always the result of *acute posterior gonorrhœa,* and only in very exceptional cases the product of chronic anterior urethritis. The first manifestations are usually noticed during the first ten days of the acute stage. Sometimes they are very insignificant—a slight discomfort, hardly amounting to pain, referred to the perineum and rectum, or some increased frequency of micturition, being all to draw attention to the posterior urethra; or the attack may be so mild and so insidious in its onset as to escape notice altogether. If, on the other hand, it is of any degree of severity, it sets in suddenly and sharply, occasionally attended with marked febrile and constitutional disturbance, and the case will impress you as one of great urgency. Locally, bladder symptoms reign supreme. In fact, formerly these cases were usually supposed to suffer from gonorrhœal cystitis, a complication which was then believed to be one of very common occurrence; and though the same diagnosis is still fairly often heard in practice, the truth is that bladder symptoms in the course of gonorrhœa are

almost always due to an affection of the posterior urethra and its adnexa.

Gonorrhœal cystitis, particularly in its acute form, is a condition of some rarity. Affecting the body of the organ, it is only met with in those already suffering from a diseased bladder before they acquired clap; and even Finger's urethro-cystitis, that variety where the parts about the sphincter and the trigone alone are the seat of the trouble, is not often seen. The lining of the organ seems to enjoy a local immunity, on which the fact that the gonococcus is never found within the cells of other than columnar epithelium throws some light. If in addition to pain there is greatly increased frequency of micturition, occasionally accompanied by such urgency that the patient is unable to hold his water; or if the desire to urinate is practically constant, the act itself affording no relief; or if at the end of each micturition some drops of pure blood unmixed with urine issue from the organ, no doubt is left that the posterior urethra has become infected. In very acute forms you have to rely upon such evidence alone, for in them the contents of the bladder are evacuated before a sufficient amount of urine has collected to enable us to

apply Finger's pathognomonic test. But in milder cases, where there is room for doubt, it should never be omitted, as it supplies valuable information, and if we rememember the great frequency of this complication and the insidious way in which it too often commences, we shall find it advisable to apply it, as a matter of routine, even in cases of apparently uncomplicated anterior urethritis whenever practicable. The test is based on the fact that pus formed in the posterior urethra is prevented by the tonic contraction of the compressor muscle from escaping into its anterior portion. If at all considerable, it flows backwards into the bladder and mixes there with the urine accumulated in its cavity. The same holds good in hæmorrhage from the posterior urethra, and in cases of peracute inflammation in this locality the contents of the bladder may be mixed with blood. Now, if the patient passes into one tube a quantity of urine sufficient to clear the urethra from the discharge there accumulated, the remainder collected in a second tube will be practically clear if the anterior urethra alone is affected, but turbid if the posterior portion is the seat of active inflammation. Of course, the first portion is always more turbid, as, in addi-

tion to the pus which has passed into the bladder, it contains the discharge washed away from the urethra; and the statement often advanced, that it is greater turbidity of the urine passed into the second glass which has a pathognomonic significance, is without sense and meaning. In order to carry out this test in a satisfactory manner, you must instruct your patient always to come with a full bladder and after several hours have elapsed since the last micturition, since at least six ounces ought to be allowed to escape into the first glass. The test fails if the secretion formed by the posterior urethra is scanty, as it then remains *in situ,* and is, of course, cleared away by the first portion.

Though the liability of posterior urethritis to pass into the chronic stage is considerably greater than that of anterior, yet its tendency is to subside, and the majority of cases do well without local interference. I am not at all in favour of topic treatment during the acute period, and the only local therapeutic measure which is, in my idea, permissible at this epoch is the introduction of a soft Nelaton catheter if the case be complicated with acute retention, unrelieved by such milder means as the hot

bath and a smart purge, followed by opium or opium and belladonna suppositories. Otherwise you have to rely exclusively upon internal medication as long as the symptoms are acute, and I find the addition of salicylate or benzoate of soda in 10-grain doses to a santal-wood mixture of almost specific value. Nay, if the signs of posterior inflammation are at all severe or urgent, I would strongly recommend to you to discontinue for a time even the ordinary injections, so as to allow the anterior portion of the mucosa to bear the brunt of the attack. In mild cases you may safely persist with them, and locally do as if nothing had happened. You will find that in a great many patients the posterior urethra recovers at the same time as the anterior, and often before. Only in such cases where the posterior urethra shows indications of active mischief after the anterior part is apparently well, I begin to treat the former locally. The posterior gonorrhœa has then passed into a subacute stage, and a series of Janet's irrigations with permanganate of potassium are very effective in bringing the disease to a speedy termination.

**Chronic gonorrhœa**—The subject which I now approach is one which forms the *crux*

*medicorum*—I mean the chapter of *chronic gonorrhœa.* What is chronic gonorrhœa, and by what criterion are we to judge whether we have to deal with the acute or chronic stage, or, popularly speaking, how are we to discriminate between clap and gleet? A time-limit, varying with different authors from six weeks to three months, is usually fixed for an acute gonorrhœa. I think this standard is mischievous and misleading. I have repeatedly seen cases of intolerant urethra and others where the initial treatment has been at fault, presenting themselves with all the signs and symptoms of a florid clap after the attack had lasted for four, six, and even nine months. Ought we to treat patients of this class as chronics? Emphatically not. The question is a practical one, and ought to be answered from a clinical standpoint. Acute gonorrhœa is characterized by a vigorous, florid inflammation, whilst the chronic form presents itself under the type of a low, sluggish, inflammatory process. This is the key to the solution of the problem. Given a patient with a red, swollen mucosa and a profuse purulent discharge, no matter how long he has been ill, you must treat him for acute gonorrhœa if you

want to treat him successfully. And even if the acute symptoms be but a passing event in the course of a chronic case, they must first be dealt with by a plan appropriate to acute cases before we make any attempt to cure the chronic evil. On the other hand, you occasionally see fresh claps which are characterized almost from the very outset by such a low type of inflammation that if you were ignorant of the history of the case you would be sure to diagnose them as gleets of long standing. Here again it would be out of place to be guided by the time factor and to prescribe for them as you would for a florid gonorrhœa.

Clinically, and apart from the question of localization, the following are some of the more usual forms under which chronic gonorrhœa presents itself. The disease makes satisfactory progress up to a certain point, but in spite of prolonged treatment a muco-purulent or serous discharge, usually of moderate amount, sometimes even of insignificant dimensions, proves obstinate. In many instances you may examine the case a dozen times without being able to discover yourself the least trace of secretion; but the patient informs you that morning by morning, or on some mornings

only, before the first urination, a larger or smaller drop is in evidence at the orifice, or can be produced by stroking the urethra. This is what the French call "goutte militaire," on account of the regularity with which it is supposed to occur every day at a certain hour. No doubt you are aware that in the majority of acute cases following an absolutely normal course the morning drop is the last to disappear. Altogether the symptoms of chronic gonorrhœa are to a large extent simply an obstinate continuation of those characteristic of the subsiding stage of an acute clap. The explanation of the "goutte militaire" is easy enough; it is peculiar to those cases where the secretion is too scanty to be noticeable in daytime, when the small amounts forming are washed away every few hours by the act of micturition, whilst the long interval between the last urination at night and the first in the morning allows the discharge to accumulate in sufficient quantities to appear as a visible drop or drops. When the secretion is reduced to traces, an agglutination of the lips of the meatus in the morning alone or also during the day may be all to show that everything is not right yet.

Another type is formed by cases which you will come across the more frequently the less stringent you are in the proofs you require before pronouncing a case as cured. A patient is told by his physician that he is all right and not in need of further treatment; perhaps—more often still—he has dismissed himself, being satisfied that the discharge does not at once recur after his ceasing to inject. And, indeed, all goes well for some time. Then one day he observes a larger or smaller quantity of pus issuing from his urethra. Very often this occurs after the patient resumes sexual intercourse, and he then hastens to see his doctor, and to complain to him of his especial ill-luck in catching a fresh clap on the first occasion he again exposed himself to the risk of infection. Sometimes the medical man agrees with him, and would suppose that the patient has a more than ordinary predisposition to clap, or that some increased vulnerability of the organ was left behind by the previous attack; and this impression is probably confirmed by the patient repeatedly turning up at short intervals with clap upon him. It is true the case gets better in no time on being treated in the ordinary way as a fresh gonorrhœa; but this odd

fact would strike many an observer not experienced in venereal diseases as pointing to some relative immunity confirmed by the previous attack dating such a short time back, or the number of attacks the patient has already gone through. However, at last the apparently haunted victim vows to himself sexual abstinence, and, sick and disgusted with his many bad experiences, he will collect all his strength of character to keep his pledge.

But it is of no avail. A fresh outbreak, which cannot be accounted for in the customary way, convinces patient and doctor that the old trouble is still active. Sometimes the exciting cause for the recrudescence will be found in the first liberal indulgence in beer or other alcoholic beverages, and often no manifest cause can be assigned for the renewed outbreak. The patient then usually refrains from seeking further professional advice for the moment. He diets himself, perhaps abstains from alcohol in any form for a long time, injects the last solution you prescribed for him, and succeeds in suppressing the manifest symptom of his trouble. But this circle of events repeats itself over and over again, till at last he turns up a confirmed chronic. The periods of latency may

be of very long duration, and if they extend over years we have to deal with a class of chronics whose type differs in degree, but not in kind, from the one just described. Cases are not at all rare where I am consulted for a discharge occurring many years after the last clap, and where the history excludes the possibility of recent infection; yet microscopical examination proves the presence of gonococci, which must have retained a certain amount of vitality for periods extending in some instances over more than ten years. On passing a full-sized bougie you will in these cases almost invariably find evidence of organic stricture, and as the subject of stricture is so closely allied to the chapter of chronic gonorrhœa, I will not omit to mention my views as to their relationship.

You are usually told that a gonorrhœa of an unduly severe character or frequent attacks of this disease predispose to this complication. In my idea the causal relationship is of a much more intimate character, and where stricture occurs, even years after an attack, it is either due to chemical or mechanical insults to the organ, caused by unsuitable attempts at treatment, or to the direct persistent action of the gonococcus and its toxines on the tissues, in

which they set up reactive inflammation. In the present state of our knowledge, there is nothing strange in this explanation, for there is no doubt that the germ may remain buried in the tissues for decades, and there continue its destructive work all the time. On inquiry, you usually learn that these patients have at one time or other suffered from a very obstinate attack of gonorrhœa, which was not necessarily the last one. The current doctrine is that later attacks are milder in degree than first ones, but less amenable to treatment, and more likely to become chronic. With the latter part of this statement I cannot agree. In my experience the first clap has a far greater tendency to pass into the chronic stage than one the product of a subsequent infection. The frequency with which resurrections of an old, decrepit gonorrhœa, buried in a premature grave but not killed, is diagnosed as a fresh clap, and the tendency to ascribe chronic symptoms noticed after an acute attack to the latest available cause, makes it easy to understand how the prevailing fallacy has arisen and has gained ground. By careful examination you will often discover traces of an evil of old standing even during the florid stage of an acute attack, and

be able to make your prognosis accordingly. Besides, in the group of cases under consideration you will often, though not always, on closer scrutiny elicit a history indicative of latency relative, not absolute. The patient will tell you, on being pressed, that during the period he believed himself well, he observed from time to time, possibly at long intervals, a drop or an excess of moisture at the meatus, some agglutination of its lips, or but some filaments in the water.

These filaments bring me to the last class of cases which I am going to describe, namely, those in whom the shreds are the only manifestation of the chronic illness. They are by no means pathognomonic of chronic gonorrhœa; they are occasionally found in people who never suffered from clap, and even if left behind by an attack of this disease, they do not necessarily imply that the genitals still harbour the specific germs. But they ought always to be looked upon with suspicion, and to be taken as *primâ facie* evidence of a gonorrhœic origin, to be refuted only by permanently negative results of systematic observation. How we have to discriminate between gonorrhœic and non-gonorrhœic filaments, I shall show when dis-

cussing the question, When may a gonorrhœa be pronounced cured?

**Chronic gonorrhœa: localization**—A diagnosis as to the *seat* of the trouble is of even greater importance in chronic than in acute gonorrhœa. What you want to know is whether the anterior urethra alone is affected, or whether the portion beyond the compressor muscle participates in the inflammatory process. It is not quite correct to speak of a posterior in contradistinction to anterior urethritis; for though the signs of the former may be prevalent, and though it is always possible to keep the latter at bay by suitable injections, I do not believe that the front ever gets permanently well whilst there is trouble in the background. Now, the mere fact of a properly managed attack of acute gonorrhœa turning chronic raises in my mind a strong presumption in favour of posterior urethritis being present. Furthermore, if there is any appreciable amount of discharge, or if other symptoms of anterior gonorrhœa are at all prominent, you will always commence your treatment with injections of suitable strength and other therapeutic measures directed against the trouble in the front part of the organ; if these fail to afford

complete relief, you at once become suspicious that some locality beyond the reach of these means participates in the affection. You will then introduce a full-sized bougie à boule, and thereby discover stricture, inflammatory or organic, as the case may be; or, if this be absent, the exquisite tenderness of some circumscribed locality when touched by that instrument will often give you a clue as to the locality of the chief trouble.

Sometimes the history of the case enables you to arrive at a definite conclusion, and evidence of such complications as prostatitis, vesiculitis, or epididymitis, makes it clear that the portion beyond the compressor must at one time have been involved, and almost certain that it is still so. One of the most valuable aids to diagnosis we have in Finger's test, the principle of which I have explained before; but to be applicable to the case of chronic gonorrhœa the word "filaments" has to be substituted for "turbidity" in the account then given.

No doubt you are surprised that I have taken such trouble in explaining a number of indirect methods by which to arrive at a topic diagnosis, when we have an instrument by the aid of which the diseased surface can be sub-

jected to visual examination. I hope that the *urethroscope* will one day be brought to such a degree of perfection as to render the diagnosis of urethral conditions as exact and as precise as that of diseases of the throat and eye has become since the introduction of the laryngoscope and ophthalmoscope; but the instruments so far placed on the market have, in my idea, wrought more harm than good. I do not deny that, in some exceptional cases, the urethroscope discloses changes in the urethral lining that would otherwise not even have been suspected—*e.g.*, such pathological curiosities as papillomata of the mucous membrane and those peculiar white patches on it which have been honoured by Oberländer with the name "psoriasis urethræ." I likewise grant that occasionally the instrument is of value in curing some confirmed sexual neurasthenic whom nothing less will convince that his urethra is quite healthy. But it is an instrument full of pitfalls to the unwary, and quite unsuitable to the requirements of general practice; and if the balance were struck of the benefits derived by and the injury done to the patients by its employment as a routine method of diagnosis, even in the hands of experts, I am sure the account

would result in a clear loss. Not only do the endoscopic pictures of the healthy urethra vary within such wide limits that it is often difficult to say where the normal ends and where the morbid begins, but in those who have successfully passed through one or more attacks of gonorrhœa, the urethroscopic appearances, as a rule, differ so much from the normal standard as to invite interference where nothing ought to be done.

In morbid conditions of the organ some striking changes in a particular part generally attract the whole attention and the whole therapeutic activity to some special patch, with this double disadvantage, that it is subjected to a class of drastic measures which ought, in my opinion, never to be employed under any circumstances whatsoever, and that the general, though may be slighter, inflammatory condition of the rest of the lining is utterly neglected. Altogether, I do not believe that, in chronic gonorrhœa, the changes are ever limited to such a small area as some authors make us believe; I think that, at any rate in the vast majority of cases, the inflammation is of a diffuse kind, though some special spot may suffer more than the rest of the organ. Furthermore, the

use of the apparatus has led to the introduction of heroic plans of treatment, such as the local instillation or parenchymatous injection of very strong solutions, the administration of caustics in substance, and curettage, which, in the ante-urethroscopic times, nobody would have dreamed or dared to employ; and I am convinced that if the methodic use of the instrument should ever become general, the number of strictures will become greater than it has been in any previous generation. You will probably tell me that my objections to the urethroscope are founded on the abuses which it is capable of, and that nothing can be said against its rational and cautious employment. Just so; but the instrument courts abuses, and its real usefulness, at least in its present form, is insignificant.

I am not going to give you a detailed account of the anatomical conditions underlying the symptomatology of chronic gonorrhœa; suffice it to say that it differs in nothing from chronic inflammations in other parts, and that it is characterized by proliferation and mucoid degeneration of the cellular elements, and by a series of pathological processes in the connective tissue, ending in the production of fibrous or cicatricial material.

The *treatment of chronic gonorrhœa* is considered by many as one of the most unsatisfactory tasks in the whole field of practical medicine. Often a case is given up in despair by one medical man after the other, or dismissed with the remark that he has only got gleet, and is not in need of further professional attendance. In the former case the patient is driven into the arms of sexual neurasthenia and hypochondriasis, whilst in the latter he is made to bask in a feeling of security that rests on very unsolid foundations. I do not share this therapeutic pessimism. I have never yet come across a case that failed to yield to persistent and rational treatment, given only an unlimited amount of patience and perseverance on either side. To insure this in the patient, carefully refrain from giving an opinion as to the probable duration; tell him at the very outset that you will be able to effect a cure, but that treatment will be required for a considerable and may be for a very long time. Diet rarely does much good in this class of cases, and I make it a rule to alter as little as possible the general habits, provided they are not quite incompatible with hygienic laws and do not include a too liberal indulgence in alcoholic beverages. In the majority of cases,

a strict diet followed for any length of time will lower the vitality of the system and its powers of resistance, and thereby protract the course of the disease; if, on the other hand, it succeeds in masking the symptoms, we are misled as to the true state of affairs, and in chronic gonorrhœa, if anywhere, it is of paramount importance at any given moment to know the worst as well as the best.

The treatment of chronic gonorrhœa must be essentially local, though I want at once to draw your attention to a lesson to be learned from the experience of a group of patients we have all come across, who, after all local procedures human ingenuity could invent had proved of no avail, got rapidly better when giving up all hope of cure and with it all treatment. In them local applications, perhaps too strong, perhaps unsuitable to the nature of the case, perhaps unduly long continued, had kept up a condition of the mucous membrane which favoured the growth of the specific germs. I do not speak here of a local irritation, which is but a mimicry of gonorrhœa and purely traumatic in origin, but of cases where the gonococcus was found as long as local treatment was persisted in. Let me therefore warn you

against an excess of therapeutic zeal. There is no doubt that in a healthy individual the urethra can manage with very little aid, and sometimes quite unaided, to rid itself of a few micro-organisms of lowered vitality left behind by an attack. Whilst it would be radically wrong to pronounce a patient as cured as long as even a single gonococcus can be obtained from his urethra, the fact of its being present does not of necessity justify us in persisting with energetic topic measures. As a rule, local treatment is indispensable, and the cases are few when internal medication alone is of avail; but more than once have a few bottles of santal-wood oil mixture sufficed with me to rapidly cure the last traces of the disease, after local remedial agents had failed to insure further progress. In some patients a change of air, particularly to the seaside, is most beneficial in either spontaneously curing the patient or in creating a condition of the organism in which remedial measures, previously tried in vain, are afterwards crowned with signal success. As you see, though our chief therapeutic aim is directed against the urethra, considerations of a wider kind ought never to be lost sight of, and in treating chronic gonor-

rhœa you must never cease to be general physicians.

If at the time the patient comes under your observation you find an acute intercurrent paroxysm, always allay its symptoms before approaching the evil that gives rise to it. For this purpose the acetates are most valuable; preparations of the type of Ricord's emulsion answer well, but I prefer the combined acetates of zinc and lead in a vehicle containing tannic acid, and if the anterior urethra alone is involved, injections with this solution in frequently increased strength effect a cure in a good proportion of cases. As soon as the acute symptoms have subsided, you have first to decide whether there is stricture, inflammatory or organic, by the introduction of the largest bougie à boule which the meatus will allow to pass. If so, systematic dilatations are a necessary preliminary step before embarking upon any other plan of local treatment. But even if no evidence of stricture is forthcoming, the regular introduction of large sounds, which ought to be left *in situ* for fifteen or twenty minutes at a time, often forms a valuable aid to other plans of treatment with which it may be combined, since it favours the absorption of

inflammatory deposits, and is instrumental in bringing deep-seated collections of gonococci to the surface, rendering them thereby accessible to the action of remedial applications.

In the truly chronic stage of gonorrhœa, no matter where the disease is localized, nitrate of silver acts almost as a specific. In purely anterior cases the need for its employment will but seldom occur, as less irritating drugs are usually found sufficient to effect a cure; but if all other attempts have failed, nitrate of silver will hardly ever disappoint us. A solution of a grain or two of this salt to the ounce of water, used as an injection, is generally followed by very rapid improvement, and only in exceptional cases am I compelled to have recourse to other forms of employment of this salt, amongst which I find the introduction of a 1 per cent. lanoline ointment after Tommasoli's method to be the most efficacious.

For the treatment of chronic posterior gonorrhœa my favourite method consists in irrigations with weak nitrate of silver solutions; these may be carried out after the Valentine plan, but I find that better and quicker results are obtained if the fluid is conducted directly into the bladder by a catheter introduced into

that organ. It is important that the bladder is filled almost, if not quite, up to the limit of its capacity, for which purpose a pint or a pint and a half may be required. I usually begin with a solution of 1 part of the salt to 3,000 parts of water, and gradually increase the strength by more or less slow steps, according to the tolerance of the parts, to 1 in 1,200 or 1 in 1,000; only very rarely I feel the need to use more concentrated solutions, though in two or three cases under my care no permanent cure was effected till I had reached 1 in 600 and 1 in 500 respectively. As a rule, the water used for the irrigations ought to be hot, about ten degrees above blood temperature; but where the implication of the prostate is of more than ordinary severity, cold irrigations are often found to answer better. Each irrigation is followed by signs of reaction, which ought always to be allowed to subside before the procedure is repeated; the intervals have, of necessity, to vary with its severity, but unless the strength of the solution is increased with undue rapidity, they need not extend over more than two or three days. As the case improves, the applications are continued with diminished frequency, until all evidence of posterior gon-

orrhœa is gone. Then injections will still have often to be resorted to, finally to free the anterior urethra from the last traces of the disease.

The plan of treatment of chronic gonorrhœa which I have described is very simple; it resolves itself into dilatation, combined with injections in the case of anterior gonorrhœa, and into dilatation plus nitrate of silver irrigations in posterior urethritis. If I do not mention any of the numerous alternative methods which have been recommended from time to time, and which may prove particularly serviceable in certain cases, I do not mean to imply that the above means will suffice to cure every single chronic gonorrhœa. But in the chaos of therapeutic polyphragmasia, which in this disease has an almost unlimited field, it is an advantage to be able to lay one's hand on a method that proves reliable in about ninety out of every hundred cases, and which certainly ought to be given a chance before embarking on other plans, where the likelihood of success is considerably smaller. I need hardly say that complications from the adnexa ought, at the same time, to be dealt with according to their specific requirements.

**Chronic prostatitis**—Of these, *prostatitis* stands in the foreground on account of the frequency of its chronic form. Whilst acute suppuration of the prostate is, in my experience, a very rare event, chronic inflammations of the organ complicate the vast majority of chronic posterior gonorrhœas, and are so frequent, indeed, that the diagnosis of the latter can never be complete without a thorough examination as to the condition of the gland. For this purpose we rely—

1. On palpation through the rectum, when the diseased organ is felt to be enlarged, tender, and sometimes to present an irregular, knotty surface.

2. On the microscopic examination of the discharge. The implication of the organ becomes a practical certainty if, in addition to columnar epithelial cells, we either discover the presence of amyloid bodies, characterized by concentric lamination, or are able to produce Boettcher's sperma crystals on drying the preparation and adding a drop of a 1 per cent. ammonium phosphate solution.

3. On the presence of gonococci in the prostatic secretion. In order to obtain it unmixed with the discharge which has accumulated in

the urethra, we instruct the patient to clear the passage by completely emptying a fairly full bladder, and then express the contents of the organ by digital compression from the rectum. Or we employ Schlen's test. The urine is collected in two tubes, as in Finger's test, with the exception of a small amount, which the patient is asked to retain till the prostatic juice has been squeezed out in the same way as before; the last portion of urine passed into a third tube then contains the unadulterated prostatic secretion. In cases of severe inflammation of the organ the naked-eye appearances of the discharge often enable a practised observer to come to a definite conclusion; but the secretion, expressed by one or the other method, ought always to be stained for gonococci, so as to exclude any possible error.

If chronic posterior gonorrhœa is complicated by chronic prostatitis, as it usually is, attempts at cure prove mostly fruitless, unless this complication be simultaneously attended to. The plans of treatment, internal and local, as generally recommended in the text-books are extremely unreliable; but this complication, as a rule, rapidly yields if massage of the organ

per rectum is combined with the nitrate of silver irrigations.

**Chronic vesiculitis**—Closely allied to the condition just mentioned is the subject of *chronic vesiculitis;* but whilst chronic prostatitis is the rule rather than the exception in chronic posterior gonorrhœa, a like affection of the seminal vesicles is a complication of fairly rare occurrence. When it is found, it is almost always associated with prostatitis. It is diagnosed in a manner somewhat analogous to that of the latter. If, on rectal examination, the vesicles can be felt at all, they are as a rule diseased. The treatment is also by massage, but the condition frequently proves one of extreme obstinacy.

**Inguinal lymphadenitis**—If I mention *inguinal lymphadenitis* among the complications, it is only to warn you against operative interference. I have never seen a case of purely gonorrhœal origin going on to suppuration, and even when the formation of an abscess appears almost unavoidable the chances are that all will end well in absorption and involution. The few cases of inguinal suppuration in the course of gonorrhœa which have come under my notice occurred in people of exceptionally

unclean habits, and as the result of severe balanitis.

**Epididymitis** —Only one other complication is fairly common—*epididymitis.* The first indication of it is pain and tenderness in the groin, and I am sure I have cut short more than one attack by at once confining the patient to his bed and applying leeches to the inguinal fold. When the acute attack is once established, I never hesitate to apply four to six of them to the groin and to the scrotum itself. And in spite of all you may read as to the dangers of this procedure, I have never seen the least untoward effect from it. On the contrary, it is always followed by a great improvement of the pain and other subjective symptoms, and by rapid diminution of the swelling. As to the subsequent local management of the attack, we have two rival methods at our disposal—cold and heat. Ice-bags and Leiter's tubes are usually employed on the Continent, particularly in Germany. And whilst it cannot be denied that by their application from the very outset the swelling can be kept within very moderate limits, the subsequent absorption is very slow and likely to be incomplete, and testicular neuralgia may be left behind,

possibly for many years. I have therefore entirely discarded the cold plan in favor of hot poultices, under which the organ rapidly attains its maximum size; but the pain and tenderness quickly subside, and prompt absorption takes place. In a few cases this is surprisingly complete, but, as a rule, a lumpy condition is left behind that requires further treatment.

Too often patients at this stage are left to their own devices, no notice whatever being taken of the inflammatory deposits when once the acute stage has passed. Not only may such neglect lead to complete atrophy of the testicle, but the residues are a source of constant danger to the patient, inasmuch as they may, even after long intervals, lead to a recrudescence of a virulent discharge. No case is above suspicion as long as the faintest trace of infiltration of this organ can be discovered, and chronic gonorrhœas, in which this stage is not, or not efficiently, treated, form the most obstinate and most troublesome group. Nothing less ought, therefore, to satisfy us than complete *restitutio ad integrum,* and this can always be brought about by prompt and energetic management of this subacute stage.

Nothing is more efficacious here than strapping, after Fricke's method. It is a method quite unsuitable whilst the inflammation is at its height, as it is then likely to lead to strangulation and gangrene of the organ; but when once the acute inflammatory symptoms have passed and only a thickening of the organ is left behind, it is superior to any other plan of treatment. When the testicle is reduced to its normal size, but a few nodules in the epididymis or in the course of the spermatic cord, or adhesions in, or a coiled state of, the latter is all that can be detected, gentle massage in a hot hip-bath usually rids the patient of the last indications of a diseased condition of the organ. Even in inveterate cases, a complete cure is always possible, unless the inflammatory exudation has meanwhile been organized. Here our first attempt must be to soften the hard inflammatory deposits by regulating and improving the circulation, for which purpose inunctions of the scrotum, with a strong ichthyol lanoline ointment and wet compresses worn day and night in a suspensory bandage, have always answered well in my hands; or a piece of lint may be dipped into a mixture of ichthyol and glycerine and applied under oiled

silk. When by the one or other of these methods the desired effect has been reached we deal with the case in the same way as we would with a more recent one. When epididymitis threatens, the injections must at once be discontinued, as well as any internal medication that controls the discharge. The latter part of this rule is too often neglected; but there is no doubt that we ought to promote a free flow of pus, which seems to have the effect of a counterirritant, and which, when once established, is accompanied by very prompt improvement in the diseased testicle. Of course, this complication can only arise where the posterior urethra is affected, and it occurs most frequently very soon after the latter becomes involved in acute gonorrhœa—in fact, it is sometimes the first indication of the inflammation having spread beyond its legitimate limits. But chronic cases are by no means immune, and I have seen epididymitis setting in in stricture cases as long as fifteen years after the last clap.

**Proofs of cure**—I now come to the last question which I propose to discuss to-night, a problem full of difficulties and responsibilities —*When may we pronounce a gonorrhœa as*

*cured?* or, to put it in a different way, When may a patient safely be allowed to marry? If an uncomplicated clap runs its normal course, and, after the patient has discontinued all treatment and resumed his ordinary way of living, we are unable to discover any traces of discharge or of filaments in the urine, our further mode of procedure is clear enough. Of course, we do not rest satisfied with a negative result on a single occasion, but instruct the patient carefully to watch his urethra, particularly in the morning before the first micturition, to see whether there is an excess of moisture at the meatus or any agglutination of its lips; if these symptoms remain absent, I subject him to a last crucial test, and ask him to call on me after he has indulged himself for two days rather freely in alcoholic beverages—beer by preference; if then no visible sign of illness can be detected, I dismiss the case as perfectly well. Persistent treatment often succeeds in leading up to the same favorable result even in chronic cases; here, however, more numerous examinations at longer intervals are necessary before we can be positive that a permanent cure has been established. But, having thus satisfied yourselves that neither dis-

charge nor shreds are left, you need no longer be haunted by the ghost of possible latency. This latency is always relative, never absolute.

But unfortunately we are not always able to effect an ideal cure, and where the discharge continues or the shreds do not disappear from the urine, we are called upon to decide whether the patient is still suffering from gonorrhœa or not. It is a well-known fact that after an attack, and particularly after a number of them, these signs may persist for an unlimited period, sometimes for the rest of the patient's life, without being indicative of anything but a functional hyperactivity of the urethral mucous membrane and its glands. Nay, shreds are occasionally found in the urine of people who never had clap, and urethrorrhœa ex libidine, as the post-gonorrhœic over-secretion is called, is an event of fairly frequent occurrence; one type which is often met with is seen in patients of a rather hypochondriac disposition, who, long after being cured, are still constantly on the look-out for manifestations of a recurrence of their trouble, and, never at rest, they succeed by a process of "milking," as Professor Valentine aptly describes it, in keeping up a state of irritation, accompanied by

some mucoid discharge. Always warn your patients against manipulating the organ in this manner. But if a case comes under your care for an excess of moisture, do not imitate the example of a physician I know of, who, without going further into the matter, dismisses it *a limine,* comforting the patient with the remark: "Your nose is moist, too."

The first thing we do in every suspicious case is to subject the urethral products, whether in the form of discharge or of filaments, to microscopical examination, and if positive evidence is thereby forthcoming, our doubts are at once at an end. But a negative result, even on several occasions, is by no means a proof that the patient's genitals no longer harbour the specific germ. Bearing the fact of latency in view, we ought always to consider such symptoms as strong presumptive evidence of a gonorrhœa still existing, and the question naturally arises, What proofs ought we to rely upon to refute this presumption? If the discharge is purulent, you may rest assured that our supposition is correct. It is true Janet distinguishes three stages in the course of chronic gonorrhœa; in the first, he says, we find the gonococcus; in the second pyogenic

germs, with or without the gonococcus; in the third anatomical lesions in an aseptic urethra. I fully recognise the importance of a mixed infection. I likewise acknowledge that the pyogenic cocci are capable in themselves of setting up a purulent urethritis, almost always of a very short duration; but I do not believe in a post-gonorrhœic-coccigenic stage that is not of a gonococcigenic character. On the contrary, I claim that if the accessory after the fact is caught, the principal lies in ambush at no great distance. And what is true of a purulent discharge applies with equal force to purulent and muco-purulent filaments. To distinguish between the latter, which, in my idea, always indicate the presence of the specific germ, and purely mucous threads which may, but need not, be indicative of its presence, we rely chiefly on the microscope. But there are certain naked-eye appearances more or less characteristic of the one or other type; thus, multiple opaque flakes that fall rapidly to the bottom of the vessel are almost sure to be of a purulent character, whilst a single, long, transparent filament, quickly rising to the surface of the urine, may be diagnosed as mucoid.

The fact that the gonococcus is often found in the morning drop or in the filaments of the first urine, when it cannot be discovered during the rest of the day, ought certainly to be utilized in doubtful cases. Another clue to the solution of the problem is given by the state of the genital organs. Bearing in mind what I said when treating of epididymitis, you will never declare a case as cured where you find traces, however faint, of an old attack of testicular inflammation. Valuable information is also obtained by repeated stainings for gonococci of the expressed contents of the prostate and of the seminal vesicles. Considering the great frequency of implication of the former body, you will never dismiss a posterior urethritis without having convinced yourselves that the prostatic juice is germ-free. If the immunity of the appendages has thus been established, we continue testing discharge and filaments at first once a week, then at longer intervals, and under all conditions likely to entice the germs out of their hiding-place, as after liberal indulgence in alcohol, after a day's violent exercise, and, if possible, after sexual intercourse. Not less than six or eight examinations ought to be made before we give a

definite opinion; but if the patient has successfully passed them all, I do not hesitate to give a final verdict in favour of a lasting cure.

Some authorities are even more exacting, and recommend, after all other means to obtain the gonococcus have failed, to evoke a traumatic urethritis by strong silver injections or similar means, and to search the discharge thereby produced for further evidence. I do not approve of such tests, as they set up fresh and unnecessary morbid processes in an organ which requires rest after the ravages of the disease, and as they are likely to prepare in the mucous membrane thus artificially inflamed a favourable soil for the multiplication of a few germs which might probably still be hidden somewhere out of harm's way, and would, no doubt, have been spontaneously destroyed by the vital energy of the living tissues. Here, if anywhere, we ought to bear in mind the useful principle, *Quieta non tangere.*

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